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Policy issues for information and communications technology: promoting the integration and application of information and communications technology policy through the Asia-Pacific Information Superhighway initiative

Asia-Pacific Information Superhighway Regional Cooperation Framework Document, 2019-2022

Note by the secretariat

Summary

In accordance with resolution 71/10 of the Economic and Social Commission for Asia and the Pacific (ESCAP), the 1st meeting of the Working Group on the Asia-Pacific Information Superhighway was held in Incheon, Republic of Korea, in September 2015. At that meeting, it was agreed that a master plan for the Asia-Pacific information superhighway and a regional cooperation framework document would be developed and that they would be mutually reinforcing. The Asia-Pacific Information Superhighway Steering Group was formed to carry out that task. The aim of this Regional Cooperation Framework Document is to identify areas of cooperation between member countries, in particular how they can cooperate and collaborate at the regional and subregional levels in support of the implementation of the Master Plan. Norms and principles are identified, as are modalities and processes of associated regional cooperation among member countries and various organizations at the regional and subregional levels. Various potential cooperation and financing modalities are also included, with examples, in considering the development of information and communications technology infrastructure in the Asia-Pacific region. This Regional Cooperation Framework Document was considered for endorsement at the 2nd meeting of the Working Group, which was held in Guangzhou, China, on 29 and 30 August 2016 and was subsequently endorsed by the first session of the Committee on Information and Communications Technology, Science, Technology and Innovation in October 2016.

At the first session of the Asia-Pacific Information Superhighway held in Dhaka, Bangladesh, from 1-2 November 2017, the member countries discussed and agreed to update the document for the period from 2019 to 2022. The present document is therefore submitted to the second session of the Committee on Information and Communications Technology, Science, Technology and Innovation for its endorsement.

* ESCAP/CICTSTI/2018/L.1/Rev.1.

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I. Introduction

1. The aim of this Regional Cooperation Framework Document is to identify areas of cooperation between member countries, in particular how they can cooperate and collaborate at the regional and subregional levels in support of the implementation of the Master Plan for the Asia-Pacific Information Superhighway. It also includes areas of cooperation with the subregional organizations, international financial institutions, the private sector and other United Nations agencies. The Master Plan is intended not as a substitute for member countries' and stakeholders' initiatives and plans related to information and communications technology (ICT), but to add value in order to improve seamless ICT connectivity and increase interconnections by deploying regional broadband networks, establishing sufficient Internet exchange points, enhancing ICT infrastructure resilience and providing inclusive access to broadband Internet for all in the Asia-Pacific region.

2. In the Master Plan, in line with the four pillars, seven strategic initiatives for seamless regional ICT connectivity of the Asia-Pacific information superhighway are identified. Furthermore, the Master Plan aims to capitalize on a multilateral, regional platform to address areas in which bilateral cooperation may not achieve the desired result, while ensuring synergies and mutual alignments between regional, subregional and national ICT plans, policies and initiatives.

II. Objectives

3. The overall objectives of the Regional Cooperation Framework Document are to help achieve the overarching goals of the Master Plan by:

(a) Fostering partnership and collaboration between member countries, international financial institutions, United Nations agencies, subregional organizations, the private sector, civil society, research institutes and academia in order to improve seamless regional connectivity in Asia and the Pacific;

(b) Identifying areas of synergy between stakeholders' ICT initiatives and plans by conducting in-depth analytical studies on feasibility, demand forecasts and network resilience, as well as harmonization of policies and regulations wherever appropriate;

(c) Raising awareness of the importance of regional cooperation for regional connectivity and enhancing the capacity of the economies of landlocked developing countries, least developed countries and small island developing States through regional cooperation to meet emerging challenges, including the application of new technologies;

(d) Encouraging the participation of the private sector in developing cross-border broadband infrastructure, especially among landlocked developing countries, least developed countries and small island developing States and in areas where commercial viability has not yet been established;

(e) Ensuring that the Asia-Pacific information superhighway contributes to the achievement of various regional and international development goals and frameworks, such as the Sustainable Development Goals, the World Summit on the Information Society and the Programme of Action for the Least Developed Countries for the Decade 2011-2020;

(f) Capitalizing on intergovernmental platforms such as the Commission and the Committee on Information and Communications Technology, Science, Technology and Innovation for setting norms and

principles and building regional consensus, while promoting good practices and lessons learned and ensuring linkages with areas such as sustainable development, energy, transport, trade, statistics and social and economic development.

III. Norms and principles

4. The Regional Cooperation Framework Document is guided by the following norms and principles:

(a) The strategic initiatives for the Asia-Pacific information superhighway promote open and non-discriminatory access [1] to network infrastructure at fair and reasonable wholesale prices and service terms and conditions, in particular passive infrastructure,[2] and promote competition with a view to enhancing affordability and encouraging innovation;

(b) The Regional Cooperation Framework Document recognizes the importance in creating synergies between national, subregional and regional ICT initiatives;

(c) The Regional Cooperation Framework Document promotes cross-sectoral collaboration, such as co-deployment of optical fibre cables along Asian highways and railways, and adds value to existing mechanisms and partnerships in the area of ICT for development in general and ICT connectivity in particular.

IV. Areas of cooperation

5. The Master Plan provides guidance under strategic initiatives focusing on the four pillars: connectivity, traffic and network management, e-resilience and broadband for all. The implementation, coordination and monitoring of the initiatives will be guided by a steering committee. Based on the work completed by the Working Group on the Asia-Pacific Information Superhighway and its report to the seventy-third session of the Commission in 2017, it is proposed that this steering committee will assume the responsibilities established in the terms of reference once the Master Plan and the Regional Cooperation Framework Document have been endorsed by the Committee in October 2016. Supported by the secretariat and respective network corridors' focal points, the steering committee will oversee the implementation of activities, provide overall guidance and decide on priorities and directions, while advising on partnerships, potential funding opportunities and emerging technologies. The proposed terms of reference of the steering committee are attached as an annex to the Master Plan for the Asia-Pacific Information Superhighway (E/ESCAP/CICTSTI(1)/2).

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[1] According to the Best Practice Guidelines for Enabling Open Access, adopted by the 2010 Global Symposium for Regulators, open access is 'the possibility for third parties to use an existing network infrastructure". The scope of open access varies depending on the different extent of openness, from passive infrastructure and active infrastructure, to technology neutrality and network neutrality. But "there seems to be agreement that open access applies to infrastructure, and means that all suppliers are able to obtain access to network facilities on equal terms." (Quoted from 'ITU, Open access regulation in the digital economy')

[2] Passive infrastructure is non-electric infrastructure such as fibre-optic system facility, towers, poles, ducts, power supplies and co-location of terminal equipment.

6. The steering committee will report on the progress and challenges related to ICT connectivity in respective network corridors to the Committee on Information and Communications Technology, Science, Technology and Innovation through the secretariat. The Committee's report, including recommendations, will be submitted to the Commission at its subsequent session.

7. In this regard, stakeholders, including member countries, partners and the secretariat, will do the following:

(a) **Cross-border fibre-optic deployment and integration of the regional backbone network including passive infrastructure (initiative 1 of the Master Plan).** Taking into consideration the ICT initiatives and plans of subregional organizations,[3] United Nations agencies, the private sector and international financial institutions,[4] identify: (i) direct fibre-optic link (missing links); (ii) possible deployment of hybrid mesh and ring structure of resilient regional backbone networks; (iii) co-deployment of fibre optic cables along with the road, railway and energy networks to maximise cross-sectoral synergy; and (iv) the need for relevant studies, including in the area of data centres, cloud information-sharing and other affordable alternatives.

(b) **Establishment of Internet exchange points at national and subregional levels (initiative 2 of the Master Plan).** Identify areas of cooperation to: (i) establish regional, subregional and national Internet exchange points; (ii) set up operating principle and governance model of Internet exchange points and harmonize policy for the internet traffic management; and (iii) conduct studies.

(c) **Regional economic and social studies (initiative 3 of the Master Plan):** (i) conduct subregional and regional studies on the economic and social impacts of ICT and future ICT trends, including research and analysis on how to improve broadband affordability and inclusive broadband access and narrow the digital divide; (ii) conduct needs assessments of ICT development in ESCAP countries, taking into account the special needs and challenges of landlocked developing countries, least developed countries and small island developing States; (iii) conduct research on alternative broadband technologies; and (iv) conduct capacity-building on enhancing the productive use of broadband connectivity.

(d) **Enhancement of ICT infrastructure resilience in the Asia-Pacific region (initiative 4 of the Master Plan).** Given the importance of resilient ICT infrastructure to sustainable development and disaster risk reduction in the region, which is the most prone to natural disasters, explore ways to enhance e-resilience, including redundancy and diversification of routes; and integrate disaster management and emergency telecommunication components into ICT infrastructure design to enhance network diversity and resilience.

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[3] For example: the e-ASEAN Framework Agreement (2000); the memorandum of understanding between member countries for the Greater Mekong Subregion Information Superhighway (2004); recognition of the importance of ICT by member countries of the South Asian Association for Regional Cooperation through the creation of a working group on telecommunications and ICT (2004); the South Asia Subregional Economic Cooperation's Information Highway Project agreement (2007); the charter of the Organization of the Black Sea Economic Cooperation (1999); the declaration by the ministers of ICT of the member States of the Black Sea Economic Cooperation (2009); the Pacific digital strategy (2005); the Trans-Eurasian Information Super Highway; Trans-Asia-Europe and Trans-Europe-Asia; the Pacific Plan for Strengthening Regional Cooperation and Integration (revised version, 2007).

[4] Initiatives by the Asian Development Bank and the World Bank.

(e) **ICT-related regulations and policy frameworks (initiative 5 of the Master Plan)**: (i) encourage updating, harmonization and development of new ICT regulations and policy frameworks to create an enabling Internet ecosystem and foster a competitive market at national, subregional and regional levels; (ii) support and review national ICT preparedness towards cybersecurity; and (iii) support Internet Protocol version 6 preparedness.

(f) **Capacity-building (initiative 6 of the Master Plan).** Enhance individual and institutional capacity of member countries in areas of common interest, such as: (i) planning and management of Internet exchange points; (ii) network management and maintenance; (iii) network traffic management; (iv) sharing of best practices in network development and traffic management; (v) conduct technical training on the establishment of Internet service providers and cybersecurity; and (vi) enhancing knowledges through generation of new researches from an Asia-Pacific information superhighway academia network.

(g) **Funding (initiative 7 of the Master Plan):** (i) explore regional funding mechanisms for deployment of the Asia-Pacific information superhighway infrastructure; and (ii) collect information on ICT project funding mechanisms in the Asia-Pacific region.

(h) **Development of ICT applications for the digital economy and digital society.** Encourage development of ICT applications, services and contents for the achievement of the Sustainable Development Goals and more inclusive broadband access in collaboration with Governments, various United Nations agencies, international financial institutions, the private sector, think tanks, civil society and academia.

V. Financing mechanism

8. ICT infrastructure in the Asia-Pacific region has been developed and financed by Governments or the private sector as well as through various forms of public-private partnership cooperation model. As financing is a persistent challenge in developing ICT infrastructure in the region, various potential financing mechanisms for the Master Plan and Regional Cooperation Framework Document could be considered under the following modalities, among others, depending on the availability of funds and preferred modes of collaboration among the participating countries:

(a) **Project financing or special purpose vehicle model.** Private entities (potentially in collaboration with other types of stakeholders) can use special purpose vehicles to finance large infrastructure projects. Special purpose vehicles' operations are limited to the acquisition and financing of specific assets, and are usually set up as subsidiary companies with asset/liability structures and legal statuses that make their obligations secure even if one of the parent companies goes bankrupt. Given the evidence that there is an appetite for using special purpose vehicles for financing infrastructure development projects, it should be noted that the parameters of their use must be correctly examined.

(b) **Consortium model.** This model is probably the most commonly used in submarine cable ventures and could be used as a model for regional terrestrial connectivity. Private operators and groups team up into consortiums with a view to either owning international broadband access for their own operations or being able to offer competitive wholesale solutions. Capital costs are entirely borne by the consortium members, in accordance with their ownership agreement, usually referenced to a construction and maintenance agreement. Each member is allocated units of capacity in minimum investment units or minimum assignable units. A consortium rarely has a legal structure as it represents only a cost-sharing agreement where each member owns part of a major asset.

(c) **Management contract or build-operate-transfer.** Under this model, the public sector gives a private player the responsibility for deploying and operating the network on its behalf against annual fees or following a revenue-sharing agreement.

(d) **Donor financing.** Projects in developing countries are often supported by development financial institutions, which also provide guarantees for loans as well as direct financing or even, in some cases, equity contributions to projects proven to benefit the development of underserved countries or regions.

(e) **Vendor financing.** Financing from the equipment vendors for ICT infrastructure, in terms of providing credit for major equipment and supplies before the projects start generating revenues, can be a financing option worth considering in areas such as submarine cables and large mobile deployments, since such infrastructure investment is capital intensive and related cash inflows only start after the completion of the project. In cases where there is sufficient potential for profitable investments, such delaying of upfront capital commitments has the potential to expedite projects and supplement traditional funding mechanisms.

VI. Validity and update of the Asia-Pacific Information Superhighway Regional Cooperation Framework Document

9. The Regional Cooperation Framework Document aims to support the implementation of the Master Plan. Therefore, when the Master Plan is revised and updated, the Regional Cooperation Framework Document must be reviewed accordingly. The review will be initiated by the above-mentioned steering committee at its meeting to be held during the last year of implementation of the Master Plan, and any revision will be presented to the attention of the Committee on Information and Communications Technology, Science, Technology and Innovation for its endorsement.

10. The revision and review will take into account an evaluation of the effectiveness of this Regional Cooperation Framework Document, including the function of the steering committee, as well as technological advancement, requirements, emerging partnerships and financing opportunities for future implementation of the Asia-Pacific information superhighway.